

DATA SHEET

PRIMERGY ECONEL 230R S1

Issue: January 2009

Quad-Core AMD Opteron™ Processor 2000 series based Rack Server - Quad-Core performance combined with economy

PRIMERGY Econel servers are the best choice when funds are limited but server availability, performance, and uncomplicated operation are important. PRIMERGY Econel servers ensure data security through ECC memory protection and integrated RAID disk mirroring. PRIMERGY Econel "easy change" design principles make it possible for you to install or replace components without technical expertise. And of course, the renowned and dependable PRIMERGY quality is ensured by applying the full set of PRIMERGY testing procedures to the Econel servers.

PRIMERGY Econel 230R S1

For data centers where high performance combined with memory addressability and entry price level is key. The cost-efficient PRIMERGY Econel 230R S1 extends the PRIMERGY RACK portfolio and focuses rather on basic than on standard feature set in comparison to RX330 S1. Econel 230R S1 is offering enough local storage capacity to be used as a stand-alone application server for customers with 19" rack focus who need dedicated application servers and for Server farms in scale-out environments. With two Quad-Core AMD Opteron™ processors of the 2000 series and up to 16 Gbytes DDR2-667 direct addressable memory, the PRIMERGY Econel 230R S1 matches your application re-quirements perfectly. Therefore the PRIMERGY Econel 230R S1 with its integrated up to six "easy change" or optional hot-plug SAS or SATA hard disks in combination with onboard disk mirroring function and sufficient free PCI slots for heavy I/O requirements, provides you with a budget saving platform.



MAIN FEATURES

AMD Opteron™ processors of the 2000 series with Quad-Core AMD64Technology and up to 4x 512 Kb SLC and 2 MB common Third Level Cache for convincing performance

Up to 6x 500GB "easy change" SATA hard disks or 6x 1TB hot-plug SATA or 6x 450 GB hot-plug SAS option, up to 16 GB memory, 4 PCIe / PCI-X slots, 2 U housing

Integrated RAID 0, 1, 1E, LEDs, iRMC and ServerView Suite, optional RAID 5

2 x Gbit/s Ethernet LAN

BENEFITS

With AMD Opteron the processor gives the company a way to ease into 64-bit computing, as soon as the individual need of the application comes up:

Quad-Core offers quadruple CPU performance within one socket. The performance of two Quad-Core processors is a real benefit for high performance computing.

Enhanced computing power on compact space; Fast communication path through usage of PCI-Express

Comfort and security for continuous operation

Top-speed communications link via LAN as standard will assure continuity in failover mode



Technical details

Mainboard

Mainboard type	D 2440
Chipset	BroadCom HT2100 plus HT1000
Processor quantity and type	1 - 2 x AMD Opteron™ 2000 series

Processor options

AMD Opteron™ 2346 HE (4C, 1.8 GHz, SLC: 2 MB, TLC: 2 MB, 2 GT/s, 55 W)
AMD Opteron™ 2347 HE (4C, 1.9 GHz, SLC: 2 MB, TLC: 2 MB, 2 GT/s, 55 W)
AMD Opteron™ 2350 HE (4C, 2.0 GHz, SLC: 2 MB, TLC: 2 MB, 2 GT/s, 55 W)

Memory slots	8 (4 slots per processor)
Memory slot type	DIMM (DDR2)
Memory capacity (min. - max.)	1 GB - 16 GB
Memory Protection	Advanced ECC Memory Scrubbing SDDC (Chipkill™)
Memory notes	512 MB modules without SDDC. Max 8GB per CPU possible.

Memory options

4 GB (2 module(s) with 2 GB), DDR2, 667 MHz, PC2-5300
2 GB (2 module(s) with 1 GB), DDR2, 667 MHz, PC2-5300
1 GB (2 module(s) with 512 MB), DDR2, 667 MHz, PC2-5300

Upgrade notes	For a memory and processor upgrade a BIOS update may be required.
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Interfaces

USB ports	4 x USB 2.0 (1 x front, 2 x rear, 1 x internal for iRMC)
Graphics (15-pin)	1 x VGA
Serial 1 (9-pin)	1 x serial RS-232-C, usable for iRMC or system or shared if enabled (Option)
Serial 2 (9-pin)	1 x serial RS-232-C
Mouse / Keyboard (PS/2)	2
LAN / Ethernet (RJ-45)	2 x Gbit/s Ethernet

I/O controller on board

Fast IDE/Ultra DMA-100	1
SATA Controller	1 x SATA channel for DVD or backup
LAN Controller	BCM 5715, 2 x 10/100/1000 Mbit/s Ethernet (TCP/IP acceleration), PXE-Boot via LAN from PXE server and iSCSI boot (also diskless) via onboard LAN
Onboard Controller notes	RAID option (PCI card, LSI 1078): RAID level 5

Slots

PCI-Express x8	2 x (1 x low profile on Motherboard, 1 x full height)
PCI-Express x4 (mech. x8)	1 x
PCI slots	1 x PCI 64-bit/66 MHz

Drive bays

Hard disk bays	6 x 3.5-inch hot-plug SAS/SATA
Hard disk bay configuration	two separate SAS backplanes for-"easy change" SATA or for hot-plug SAS/SATA
Accessible drive bays	1 x 5.25/1.6-inch for backup devices or CD-RW/DVD
Notes accessible drives	All possible options described in relevant system configurator.

General system information

Number of fans	3
Fan configuration	standard

Operating panel

Operating buttons	On/off switch NMI button
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Operating panel

Status LEDs	System status (amber) Identification (blue) Hard disks access (green) Power (amber / green) At system rear side:
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BIOS

BIOS features	ROM based setup utility Recovery BIOS BIOS settings save and restore Local BIOS update from USB device Online update tools for main Windows and Linux versions Local and remote update via ServerView Update Manager SMBIOS V2.4 Remote PXE boot support Remote iSCSI boot support
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Operating system

Supported operating systems	Microsoft® Windows Server® 2008 Microsoft® Windows Server® 2003 Novell SUSE Linux Enterprise Server Red Hat Enterprise Linux Note: Support of other Linux derivatives on demand
Operating system release link	http://ts.fujitsu.com/software http://docs.ts.fujitsu.com/dl.aspx?id=a9e600b9-e4cb-4f48-aa41-632f69058421
Standard	PDA ASR&R
Server Management Notes	Regarding Operating System dependencies and product details for ServerView Suite Software Products see dedicated Product Data sheets.

Dimensions / Weight

Rack (W x D x H)	430 x 770 x 86 mm
Mounting Depth Rack	710 mm
Height Unit Rack	2 U
19" rackmount	Yes
Weight	18-25 kg
Weight notes	Weight may vary depending on actual configuration

Environmental

Noise emission	Declared noise emission according to ISO 9296 / ISO 7779 / ETSI 300 753 Class 3.1
Sound pressure (LpAm)	44.1 dB idle, 50.7 dB operating
Sound power (LWAd; 1B = 10dB)	5.9 B idle, 6.6 B operating
Operating ambient temperature	10 - 35°C
Operating temperature note	ETSI 300 019-2-3 Class 3.1

Electrical values

Power supply configuration	1x standard power supply unit
Standard power supply output	600
Rated voltage range	100 - 240 V
Rated frequency range	50 - 60 Hz
Rated current in basic configuration	100 V - 240 V / 2.3A - 1.1A
Active Power max. (per system unit)	497 W
Apparent power max. (per system unit)	501 VA
Heat emission	1789.2 kJ/h (1696.2 BTU)

Compliance

Germany	GS
Europe	CE

Compliance

USA/Canada	CSAc/us ULc/us FCC Class A
Global	CB RoHS (Restriction of hazardous substances) WEEE (Waste electrical and electronic equipment)
Japan	VCCI class A
Compliance notes	There is general compliance with the safety requirements of all European countries and North America. National approvals required in order to satisfy statutory regulations or for other reasons can be applied for on request. This product and the released accessories are in compliance with emission class A. In certain cases measures have to be taken to reduce the electro magnetic influence to other equipment.
Compliance link	https://sp.ts.fujitsu.com/sites/certificates/default.aspx

Components

Hard disk drives

SATA, 3 Gb/s, 1000 GB, 7200 rpm, hot plug, 3.5-inch
SATA, 3 Gb/s, 750 GB, 7200 rpm, hot plug, 3.5-inch
SATA, 3 Gb/s, 500 GB, 7200 rpm, hot plug, 3.5-inch
SATA, 3 Gb/s, 500 GB, 7200 rpm, 3.5-inch
SATA, 3 Gb/s, 250 GB, 7200 rpm, hot plug, 3.5-inch
SATA, 3 Gb/s, 250 GB, 7200 rpm, 3.5-inch
SATA, 3 Gb/s, 160 GB, 7200 rpm, hot plug, 3.5-inch
SATA, 3 GB/s, 160 GB, 7200 rpm, 3.5-inch
SAS, 3 Gb/s, 450 GB, 15000 rpm, hot plug, 3.5-inch
SAS, 3 Gb/s, 300 GB, 15000 rpm, hot plug, 3.5-inch
SAS, 3 Gb/s, 146 GB, 15000 rpm, hot plug, 3.5-inch
SAS, 3 Gb/s, 73 GB, 15000 rpm, hot plug, 3.5-inch

Hard disk notes	One Gigabyte equals one billion bytes, when referring to hard disk drive capacity. Accessible capacity may vary, also depending on used software
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Optical drives

DVD-ROM, (16xDVD; 48xCD), half height, PATA
DVD Super Multi, (16xDVD, 8xDVD+RW 6xDVD-RW, 12xDVD-RAM; 48xCD, 32xCD-RW), half height, PATA

SCSI / SAS Controller

SAS Ctrl 3 Gb 4 ports int. / 4 ports ext. PCIe x4

LAN Controller

Ethernet Ctrl 1 x 1 Gb Intel® Gigabit CT Desktop Adapter
Ethernet Ctrl 1 x 1 Gb Intel® Gigabit CT Desktop Adapter
Ethernet Ctrl 1 x 1 Gb Intel® PRO/1000 GT Desktop Adapter
Ethernet Ctrl 1 x 1 Gb Intel® PRO/1000 MT Single Port Server Adapter
Ethernet Ctrl 1 x 1 Gb Intel® PRO/1000 PT Server Adapter
Ethernet Ctrl 1 x 1 Gb Intel® PRO/1000 PT Server Adapter

Warranty

Standard Warranty	1 year
Service level	On-site Service

Maintenance and Support Services - the perfect extension

Recommended Service	7x24, Onsite Response Time: 4h
Spare Parts availability	5 years
Service Weblink	http://ts.fujitsu.com/Supportservice

Information about environmental care, policies, programs and our Environmental Guideline FSC 03230:
<http://ts.fujitsu.com/aboutus>

Take back and Recycling information:
<http://ts.fujitsu.com/recycling>

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